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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,432	02/06/2002	Hideki Kondo	9281-4274	9541

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EXAMINER

BETTENDORF, JUSTIN P

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,432

Applicant(s)

KONDO, HIDEKI

Examiner

Justin P. Bettendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On pages 5-6, the second full paragraph in the "Description of the Preferred Embodiments" section is redundant with the "Brief Description of the Drawings" section. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Conti United States Patent No. 4,777,654.

The Conti reference discloses in figure 2 a waveguide for a microwave device (i.e. millimeter band is part of the microwave band - see abstract) comprising: a "frame" 20 housing a high frequency circuit on circuit board 28 therein (see col. 3, lines 2-5); a "lid" 21 attached to the sidewalls of the "frame" 20 with "grooves" 24, 25 formed therein along the mating surface to form a waveguide (see col. 2, lines 59-65).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conti in view of Hirota United States Patent No. 5,311,154.

The Conti reference, as noted above, discloses in figure 2 a waveguide device with an input 27 that may be connected to an additional waveguide (see col. 4, lines 12-14) but does not show a flange nor an inclined plane.

As would have been well known, flanges are conventionally used to couple waveguides together as is illustrated in figure 2 of Hirota. Moreover, Hirota shows in figure 1 an inclined plane in the waveguide path that advantageously couples the waveguide to the circuit board 8, which advantageously avoids detrimental loss of the signal in converting from waveguide to microstrip (see col. 3, lines 26-35).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have added a flange to the "lid" in the waveguide of Conti at input 27 because such a modification would have advantageously allowed coupling to other waveguides as suggested by Conti and Hirota. Furthermore, it would have been obvious to have added/substituted (in place of the probe) an inclined plane to the groove of Conti as taught by Hirota because such a modification would have advantageously reduced detrimental loss of the signal.

6. Claims 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conti in view of Shiomi et al. United States Patent No. 4,608,713.

As noted above, the Conti reference discloses in figure 2 a waveguide device that includes a "frame" 20 with a probe 37 located on the circuit board 28. Figure 8 discloses an embodiment with two separate circuit boards 92, 98 with output circuit oscillator circuit 100 on

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circuit board 98. The reference also discloses that a probe is an art-recognized equivalent coupling device to a field distorting post such as 101 (see 63-68) but does not show a "sub-casing" housing around the second circuit board 98 with the probe protruding into the waveguide groove from the second circuit board 98.

The Shiomi et al. reference discloses in figure 3 a waveguide device with a microwave circuit 16 located in a separate "sub-casing" housing shield 17 with a probe connected thereto extending into the through-hole of a sidewall of the waveguide 14.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have added a "sub-casing" around the board 98 with a probe extending from the through hole in the embodiment of figure 8 in the waveguide device of Conti as taught by Shiomi et al. because such a modification would have advantageously sealed the oscillator microwave circuit as suggested by Shiomi et al. With respect to claim 5, it should be noted that providing a conventional cut-out to attach the "sub-casing" would have been obvious because such modification would have been considered a mere substitution of attachment means.

Allowable Subject Matter

7. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: None of the references suggests the subject matter of claim 6, which inter alia recites "both the main casing and the sub-casing have waveguide grooves".

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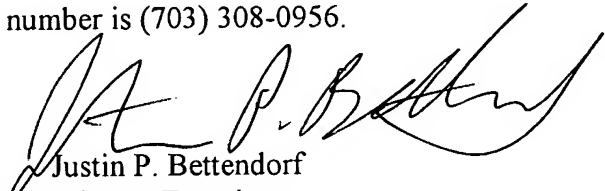
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wolfe United States Patent No. 4,254,383 discloses in figure 6 attaching a circuit by a cut out in a waveguide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin P. Bettendorf whose telephone number is (703) 308-2780. The examiner can normally be reached on 6:00-3:30 (M-F, 1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Justin P. Bettendorf
Primary Examiner
Art Unit 2817

jpb
March 26, 2003